

For The Royal Academy of Sciences & Arts
from Robert Brown

1802

PTEROCYMBIUM,

WITH OBSERVATIONS

ON

STERCULIÆ,

THE TRIBE TO WHICH IT BELONGS.

BY

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FROM DR. HORSFIELD'S "PLANTÆ JAVANICÆ RARIORÆ"

LONDON, JUNE 4. MDCCCXLIV.

10/18
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PTEROCYMBIUM JAVANICUM.

TAB. XLV.

CHAR. GEN. *Flores* polygamo-monoici (ferè hermaphroditi). *Calyx* 5-fidus, patens. *Antheræ* (10) simplici serie; loculis omnibus parallelis. *Ovaria* disperma. *Stigmata* filiformia, recurvata. *Pericarpia*: *Folliculi* foliacei, naviculares, longè ante maturitatem aperientes. *Semen* unicum, albuminosum. *Embryonis Radicula* hilo proxima.

Arbor, foliis lobatis indivisise; paniculis subterminalibus.

Obs. Genus *Stereuliacearum* SCAPHIO proximum et forsàn nimis affine.

Scaphium verò differt: *Antheris* (15—20) congestis; *stylis* arcè coherentibus; *stigmatibus* coalitis, unicum lobato-capitatum efformantibus.

DESCR.—Arbor sylvestris, 50—60-pedalis; trunco modicè crasso, cortice levì, rufescenti-fusco; cinnà patentì (*D. Horsfield*). Folia alterna, 5—3-loba, passim indivisa, circumscriptione latè uvata, basi cordata 5-nervi, lobis ellipticis brevè acuminatis, sinibus obtusis; dum indivisa, paulò altius cordata, 3—5-nervi, brevissimè acuminata: omnium adulta superè glabra præter oervos venasque primarias tenuissimè pubescentes, pube simplici: subtèr pube similì magis copiosa, præsertim in nervis venisque ferè nubibus et inasper, rariore tamen et tenuiore, per totam paginam: novella utrinque pube stellari copiosa tecta. Petioli teretiunculi, undique pubescentes, anticè sulco teoui exarati, basi apiceque paululùm incrassati, quandoque folia subequantes, sæpius dimidio et ultra breviores. Stipulæ laterales, subulata, caduce. Panicula subterminalis, e racemis alternis approximatis subcorymbosis. Pedicelli extra medium articulati, ipso articulo constricto, inter dilatationes duas manifestas. Bracteæ omnes deciduæ v. caduce. Calyx monophyllus, ad medium quinquefidus, æqualis, turbinate-campanulatus, cariaceus, glaber, laciniis tomentis minutissimum cinereo marginatis, immersè nervosus venisque anastomosantibus latè semilanceolatis; æstivatinne valvatè, alabastro 5-gono, turbinate; tubo intus basi corpusculum scobiformibus minutis densissimè tecto. Corolla nulla. Flores hermaphroditi vel polygamo-monoici. Hermaphrodito-Masculi: Columna genitalium (gynostemium) e basi parùm dilatatè cylindracea; dimidià inferiore brevior, pube tenuissimà simplici patentì; superiore glabro, apice parùm dilatato (stamioibus occultato) in urceolum decem- v. octo-dentatum antheriferum. Antheræ 10 v. 8 simplici serie dispositæ, incumbentes,

supra medium affixæ; loculis appositis, contiguis, linearibus, longitudinaliter dehiscensibus. Pollen læve, subovale. Pistilla omnibus punctis ferè ut in Feminis. Hermaphrodito-Femineis: Columna quandoque brevissima. Antheræ ut in masculis numero et dispositione, polline forsan effuso. Ovaris 5 (rarò 6) ipso apice columnæ insidentia, sessilia, arcuè approximata, distincta tamen, dorsi apice gibboso, ita ut stylus quasi lateralis evadit, disperma; ovalis collateralibus erectis anatrophiis. Styli 5—6 arcuè approximati, leviter coherentes, breves. Stigmata filiformia, recurvata, intus longitudinaliter papulosa. Pericarpia 5—6, aliqua sæpè abortientia, follicularia, singulis stipiti filiformi pubescenti insidentia; stipite communi 5-angulato, vix longitudine calycis diu persistentis haud mutati. Folliculi citò post fecundationem et longè ante seminis maturitatem aperientes, foliacei, reticulato-venosi, naviculares; dimidia inferiore duplò profundiore ibique carinà in lobulum obtusum prodnetà, superiore planiusculi. Semen unicum maturescens, exsertum, basin folliculi occupans, erectum, basi insertum, spbaricum, læve, tenuissimè pubescens pube simplicii. Integumentum triplex; *externum* crustaceo-membranaceum, latere inferiore, respectu axeos communis folliculorum, linè parùm elevata ab hilo ad apicem ductà raphem indicantè insignitum, superficiè interiore præter raphem venis per alterum latus recurrentibus ad basin tendentibus, raram crassiere raphi opposito; inter hocce integumentum (v. epidermidem testæ) et medium substantia adest parca subfloccosa: *medium* (endospermium) nucamentaceum, apice extus areolâ circulari (ebalazâ) insignitum: *internum* (integumentum interius) membranaceum. Albumen nucleo conformè, bipartibile, amygdalinum, album. Embryo erectus, ferè longitudine seminis, albus. Cotyledones latitudine albuminis idque bipartientes, foliaceæ: Radicula hilo proxima, brevis, subovata.

Pterocymbium javanicum, according to Dr. Horsfield, grows scattered among other trees in the luxuriant forests which, at a small elevation above the sea, cover many of the plains in the central and eastern districts of Java.

The native name is *Hining* or *Kesomong*.

TAB. XLV. Fig. 1. A branch bearing leaves. Fig. 2. A portion of the panicle, bearing ripe fruits. Fig. 3. An unexpanded flower. Fig. 4. The same, slightly magnified, opened longitudinally, the sexual organs being at that period sessile and the anthers closed. Fig. 5. An anther seen in front. Fig. 6. The same, seen from behind. Fig. 7. The column thickened at top, which in Fig. 8 is seen divided into ten teeth. Fig. 9. One of the pistills, cut longitudinally to show the two erect collateral ovula. Fig. 10. The half of an expanded flower, in which the column is elongated. Fig. 11. The base of a carpel, with its single seed. Fig. 12. The seed, deprived of its outer integument. Fig. 13. The same, after the removal of the inner integument. Fig. 14 and 15. The embryo, with its bipartite albumen.

STERCULIACEÆ, to which *Pterocymbium* evidently belongs, was first proposed as a distinct natural family by Ventenat in 1804*; his only character separating it from *Malvoceæ* being the presence of albumen surrounding the embryo, and from *Tiliaceæ* its monadelphous stamens.

In 1814†, in suggesting the formation of Natural Classes of plants and proposing *Malvoceæ* as one of these classes, I referred *Sterculiaceæ* to it, but regarded the order as more limited than Ventenat appears to have done; considering it as sufficiently distinct from *Bulteriaceæ*, to great part of which, however, Ventenat's two principal characters of *Sterculiaceæ* equally belong.

* *Hort. Malais. fol. 91.*

† Appendix to Capt. Flinders's Voyage to Terra Australis, vol. ii. p. 540.

In endeavoring to establish the characters and affinities of *Pterocymbium*, it became necessary to examine those of the established genera most nearly related to it, and as this examination has led me to adopt considerable alterations in arrangement, and enabled me to make some additions to the number of species, I shall here give the characters of the genera and species of that tribe to which the name of *Sterculiæ* has been applied by DeCandolle and Endlicher, preferring that account with a history of the tribe, and especially of the genus *Sterculia*, from its formation to the present time.

In the botanical history of *Sterculia*, it is not necessary to go farther back than 1747, when Linnæus first published his character of the genus*, founded on the specimens and unpublished figures of Hermannus, whose Ceylon herbarium, of which the Museum Zeylanicum is a catalogue, had been sent from Copenhagen for his inspection. The result of a careful examination of this herbarium was the publication in 1748 of the "Flora Zeylanica."

Hermann's herbarium (purchased by Sir Joseph Banks and now in the British Museum) contained flowering specimens of *Sterculia foetida* and *Balanites*, and the fruits of both species were figured by Hermann himself in the volume of drawings which accompanied the herbarium. From these materials, confirmed no doubt by the figures of the fruits in "Hortus Malabaricus" and "Herbarium Amboinense," the Linnæan genus was entirely established. The character given, however, is strictly applicable to *Sterculia foetida* only; and Linnæus was probably induced to refer *Balanites* to the same genus, either from not having distinctly seen the remarkable form of the flower in that species, or, which is more likely, disregarding that difference was determined by the exact resemblance in its fruit to that of *S. foetida*, both being figured in the volume of drawings already referred to. These were the only materials he appears ever to have examined, and his own herbarium contained absolutely nothing except a single leaf of *S. foetida*: the generic character consequently remains unchanged in all his subsequent works.

In "Flora Zeylanica," Linnæus correctly includes *Sterculia* in his Class *Moenacis*, notices the imperfect stamina in the female flower, and only overlooks the minute rudiments of ovaria in the male flower. He referred the genus to his Natural Order *Triceceæ* (very nearly corresponding with the *Euphorbiaceæ* of Jussieu), as appears first in "Philosophia Botanica," published in 1751, and afterwards in the sixth edition of his "Genera Plantarum" in 1764. In this determination of its affinity he was followed by Bernard de Jussieu in 1759, by Adanson in 1763; and in a manuscript list of the arrangement of plants adopted in 1779 in the Paris Garden, I find *Sterculia* still placed in the same family. The generic character of *Sterculia*, as given by Linnæus, who does not notice, and had no opportunity of ascertaining the structure of the seed, might with very slight alteration stand for that of the whole tribe, *Heritiere* alone excepted.

In the order of time, the next work in which the same genus is described, though under a different name, is Aublet's History of the Plants of French Guiana†, which appeared in 1775. He describes his genus *Feira*, which all subsequent botanists have referred to *Sterculia*, as having hermaphrodite flowers, with ten stamina, and the capsules or follicles surrounded at the base with rigid filiform processes, formed as he states by the enlargement of the hairs which according to him exist in the flowering state. But from an examination of the specimens in his own herbarium (purchased by Sir Joseph Banks and now in the British Museum), as well as from others collected in the same country by the late celebrated Professor Richard, it appears that the flowers are unisexual; that the hairs of the nectolous antherarum which Aublet describes, and which, as he states, by their enlargement form the mass of rigid processes surrounding the ripe fruit, have no existence; and that this singular appendage to the fruit is an accidental structure or monstrosity, probably of rare occurrence, of which I have found a single specimen among the loose fruits of his herbarium.

In 1775 also was published the "Flora Ægyptiaco-Arabica" of Forskæl, who describes a supposed new genus, *Calsasia*‡, which is no doubt a species of *Sterculia*, certainly, however, not *platensis* as Vahl affirms, but

* *Nove Genera Plantarum, respondentis Dussou*, p. 10.

† p. 635, t. 279.

‡ p. 96.

perhaps either *S. tomentosa* of the "Flora Sene-gambie," or the nearly related species *obovata*. *Culmis* is described as having hermaphrodite flowers, and it is stated that the style, which is originally concealed by the stamina, only becomes visible after the expansion of the flower, so that here we have the same account of structure and gradual development of pistillum which was afterwards given by Cavanilles and adopted by de Jussieu.

In 1786, in the first volume of the *Acta Acad. Patavina*, Marsili proposed a new genus related to *Sterculia*, and named *St. platyfolia* of the "Supplementum Plantarum" of the younger Linnaeus.

In 1789 Cavanilles published his fifth dissertation on Monadelphous plants, in which *Sterculia*† appears with its characters considerably modified, *Feira* of Aublet being included in it, and some additional species described. He refers the genus to *Monadelphia*, states the flowers to be hermaphrodite, and accounts for their unisexual appearance by assuming the gradual and more tardy development of the female organ; he also describes the stigma as either bifid or with five rays, the supposed existence of the bifid stigma being founded on an error in the drawing of *S. platyfolia* by Mlle. Basport, from which his engraving is copied.

In 1789 the immortal work of A. L. de Jussieu appeared. *Sterculia* is there‡ for the first time correctly referred to the Natural Order *Malessee* as then understood: the generic characters, however, are stated to be taken from Aublet and Cavanilles. The erroneous assertion of the latter that the flowers are hermaphrodite, and his account of the gradual development of pistillum are adopted, and finally Jussieu expresses a doubt whether the embryo is corrupted, which he describes it to be in all the other genera of the same section of *Malessee*, and which he considers as one of the principal characters of that Natural Order.

In Schreber's edition of the "Genera Plantarum"§ of Linnaeus, published the same year, *Sterculia* is referred to *Dodecandria*, and the few changes made in the character are apparently taken from Cavanilles, and among these is the stigma bifidum.

In 1789 also Dryander, in the first edition of "Hortus Kewensis," established, partly from the manuscripts of J. G. Koenig, the genus *Heritiera*¶, which he justly places next to *Sterculia*, and refers both to *Malessee Monadelphica*.

Neither in Willdenow's edition of the "Species Plantarum" of Linnaeus, nor in Persoon's "Synopsis" is any important alteration made in the character of the genus, which, following Schreber, is referred by Willdenow to *Dodecandria*, and by Persoon to *Monadelphia*.

In 1804 Ventenat, in his "Jardin de la Malmaison," gives a considerably altered, and in most respects improved character of *Sterculia*, of which with some other genera of *Malessee*, and the first section of Jussieu's *Tillæeae*, he proposes to form a new Natural Order, *Sterculiaceae*, his principal distinguishing character of which has been already mentioned. He refers the genus to *Monadelphia Dodecandria* of the Linnæan system for no very sufficient reason, namely the existence of the rudiments of the other sex in both the male and female flowers. He is the first to notice the *albumen bipartibile* and *radicula embryonic umbilico opposita* or *contracta*, both of which he introduces into the character of the genus. Besides these improvements in the account of the genus, he has given the distinguishing characters of several new species.

In 1805 M. Palisot de Beauvois, in his "Flore d'Oware et de Beuin**," in describing his *Sterculia acuminata*, introduces several alterations into his character of the genus, most of which belong only to the species he has there described, and some of which may be considered of generic importance, especially the remarkable structure of antheræ.

In 1806 Salisbury proposes a new genus, *Southwellia*, formed of all such species of *Sterculia* as have the segments of the calyx consistent with cohering spines; this being the only character distinguishing it from the rest of the genus.

In the same year Poiret, in the article *Sterculia* of the Botanical Dictionary of the "Encyclopédie Méthodique ††,"

* p. 106.

† p. 264.

‡ p. 378.

§ p. 324.

¶ vol. III. p. 546.

¶¶ vol. II. fol. 91.

** vol. I. p. 40.

†† vol. VII. p. 428.

considers the flowers as hermaphrodite, and adopts the explanation given by Forskæl, Cavanilles and de Jussieu. In his generic character there is no improvement; but he suggests the probable expediency of afterwards dividing the genus, when the structure of the various plants referred to it is better known.

In 1819 Sir James (then Dr.) Smith, in Rees's "Cyclopædia," in his account of *Sterculia*, takes no notice of the structure of seed, and is inclined to agree with Schreber and Willdenow in referring it to *Dodecadendria*. If the genus should be hereafter subdivided, he seems more disposed to trust to differences in the styles and stigmata than to those very remarkable modifications of fruit, with some of which he was acquainted, believing them not to be supported by other characters, and in proof of this instancing *St. platanifolia* and *coloreta*, so similar in fruit and so unlike each other in the form of the flower.

In 1824 DeCandolle, in the first volume of his "Prodromus," forms a tribe which he calls *Sterculiæ*, consisting of *Sterculia* and *Heritiera*, referring it to *Batneriaceæ*. The most remarkable circumstance in his character of *Sterculia*, is his describing the embryo as erect, which, if I rightly interpret his meaning, although applicable to a few species, is directly contrary to the more usual structure. *Sterculia* as a genus he distinguishes from *Heritiera* by the existence of albumen, which, however, is not universally present, and dehiscence of the follicles; the direction of embryo is not noticed in his characters of either of these two genera.

In 1827 M. Auguste de St. Hilaire, in the "Plantes Usuelles des Brésiliens," gives, appended to his account of a supposed new species of *Sterculia*, an improved character of the genus, though in this character he describes the albumen as a coat of the seed; the 'embryon antitrope' is considered as common to the whole genus. In the remarks that follow he supports Linnæus' account of his classification of the genus, in opposition to the observations of Jussieu which he refers to, but which he does not seem to be aware were adopted from Cavanilles, and perhaps also from Forskæl, with whom a similar account originated.

In the same year he published a Livraison of his "Flora Brasiliæ Meridionalis," in which work, as in the "Plantes Usuelles," owing to the state of his health, he was assisted by MM. Adrien de Jussieu and Cambesoddes. In the "Flora Brasiliæ" an enlarged, and in many respects improved character is given of *Sterculia*, of which the principal difference from that in the "Plantes Usuelles" is, his admitting the existence of albumen divided into two equal segments, which he correctly states frequently cohere with the corresponding cotyledons, the first distinct notice I believe of that remarkable economy: he states also, that where the seeds are ascending, the radicle of the embryo points to the hilum, and where they are transverse, in the diametrically opposite direction. His character therefore of the genus is so framed as to include every species of *Sterculia* of DeCandolle, as far as the author was acquainted with their structure. It will hereafter appear, however, that neither is the existence of albumen universal, nor is the direction of the embryo dependent on that of the seed, even in the carpella of all the species then published.

In 1831, in the "Flora de Ségambie," the joint work of MM. Guillemin, Perrotet and Richard, a new point is introduced into the character of *Sterculia*†, namely an incomplete axillus, which however, if it really exists in any case, is probably to be found in one species only, namely *Sterculia cordifolia*: in all the other species which I have examined there is either only a minute *caruncula axillialis* or *strophialis*, as in *St. fatida*, or more generally so trace whatever of this appendage.

In 1832, in the "Meletemata Botanica" of Schott and Eadlicher, the Natural Order *Sterculiaceæ* is divided into three principal tribes, *Bombacæ*, *Helicteriæ*, and *Sterculiæ*. This last tribe, as in DeCandolle's "Prodromus," is limited to the genera *Sterculia* and *Heritiera*. But *Sterculia* is subdivided into twelve genera, chiefly from modifications of the flower, or from the texture and period of dehiscence of the folliculi, and in one case from the seed being winged; no modification of internal structure of seed being introduced into any of the characters.

In the same year the third volume of Dr. Roxburgh's "Flora Indica" was printed at Calcutta. In this valuable work such a generic character of *Sterculia*‡ is given as to comprehend all the Indian species, and indeed so

* vol. . p. 277.

† vol. I. p. 79.

‡ p. 144.

constructed as to include all that are now known, except *Courtenia*, a new genus of the present essay; and even that would be excluded only from its generally having double the usual number of ovaria. Several new species are well described in the work, and the direction of embryo noticed in most of them; the only species in which the radicle is described as pointing to the umbilicus being his *Sterculia slata*.

In 1840 Professor Endlicher, in the 13th part of his "Genera Plantarum," modifies the arrangement of the Linnean genus *Sterculia* given in the "Meletemata," all the genera there established, except his *Pterygota* (the *St. slata* of Roxburgh), being considered as only subgenera of *Sterculia*, of which the principal characters distinguishing it from *Pterygota* are, as he states, orthotropous ovula and embryo either antitropous or parallel to the umbilicus. It would seem that these distinctions were adopted chiefly from the facts stated in the "Flora Indica" of Dr. Roxburgh, and in part also perhaps from the generic character of *Sterculia* given in the "Flora Brasiliæ."

In 1841 the same arrangement and characters are given in his "Enchiridion."

Before proceeding to the description and characters of *Sterculia* I have to make a few preliminary observations, chiefly on the relative importance of the different organs in the formation of genera.

In the general description of the tribe, I have enclosed in brackets such exceptions to the more usual structure as I believe to be in most cases of generic value.

The ordinary structure follows separately; no notice being taken of the exceptions which are numerous, and such parts of the general description being excluded as are of least importance, and it may be remarked that this character is but little different from that of the genus *Sterculia*.

I then give the few characters to which hitherto no exception has been found.

The direction of Embryo with relation to the insertion or umbilicus of the seed appears to be by far the most important character, or that which is best supported by other modifications of structure; and it is worthy of remark, that in this point the ordinary direction of the embryo in the tribe, namely the radicle seated at the opposite extremity or apex of the seed, is itself a deviation from the more usual structure of Phænogamous plants, and an exception not only to the other tribes of *Sterculiaceæ*, but to the whole of the Natural Class *Mabuceæ*, to which that order belongs; and it becomes still more remarkable in regard to the state of the unimpregnated ovulum, which I have some reason to believe is not orthotropous as might be expected, and as it has been described, but apparently anatropous, and that perhaps in the whole tribe. As, however, my observations on this subject are entirely made from the macerated ovaria of dried specimens, the statement here made must be received as requiring confirmation from the examination of living plants, and of a greater number of species*.

From this ordinary direction of embryo in the tribe the deviations are of two kinds: the first, and no doubt the more important, is that in which the radicle is placed at a point close to the umbilicus, which is the most general structure in Phænogamous plants; but as it never points directly within the umbilicus, either in this or any other family, I have modified the expression generally employed in such cases. The second deviation is where the umbilicus is placed on or near the middle of the ripe seed with the radicle pointing to its lower extremity; in other words, where the embryo is parallel to the umbilicus. But this position of umbilicus of the ripe seed does not necessarily imply an exactly similar insertion in the unimpregnated ovulum; and in this tribe I am inclined to believe, that in many cases the formen of the ovulum is so close to the umbilicus as to appear un-

* The species of *Sterculia* with orthotropous embryo in which I have found this unexpected position of formen in the unimpregnated ovulum, are *ferida*, *patena*, *coriopinensis*, *nobilis* and *angustifolia*; and in the ripe seeds of *trapezanthæ*, *uvæ*, *villosæ* and *puberula*, an indication of a lateral formen near the base is still visible, but which in *ferida* I have not been able to detect.

tropous, and that it ultimately becomes more distant from the unequal growth of the opposite extremities of the seed.

The exceptions to the ordinary structure in *Sterculiæ* which appear to be next in importance are the modifications in texture, and especially in the period of dehiscence of the seed-vessel or carpel, or even its nondehiscence, for in this respect the tribe admits of the two extremes. In the first, where the carpel opens long before the ripening of the seed, its texture is always foliaceous, and the embryo may be either transverse, that is having its radicle distant from the umbilicus, or approximated to it.

The want of *Abscissa* in this tribe is also a character of considerable value, but its absence is not quite so frequent as has been supposed, there being some room for doubt where its union with the cotyledons is most intimate.

The deviations from ordinary arrangement of the *Antheræ* may be considered as next in value to those already enumerated; of these modifications, that of the greatest importance is where the antheræ are disposed in a single series and equidistant; this occurs I believe only when either they are ten in number, or in the very rare case where they are reduced to five; the mere number, where they are not equidistant nor closely approximated, seems to be of much less importance.

The degrees of development of stamens in the female flower can never be employed in the formation of genera: in several, perhaps in many cases, the antheræ contain pollen, but on comparing it with that of the male flower, I am disposed to believe it to be imperfect or effete. It would seem at first sight, that, in the numerous cases where the style is deflected, the stigmata are so closely approximated to the antheræ that impregnation by their pollen is at least probable; but by this deflection of style the stigmata are equally exposed to the influence of the antheræ of the male flowers, which are generally lateral, while the female is terminal, the exposure being nearly equal whether the inflorescence is pendulous or erect.

The modifications of calyx in *Sterculiæ*, especially in the depth of division and direction of its segments, have hardly more than specific or sectional value; and even those processes which occur in several species, either in the segments or tube, seem to be of no greater importance. The most remarkable anomaly of all is the induplicate revivification found in a single species belonging to New Holland and in *Sterculia villosa* of Roxburgh. This mode of revivification readily passes into the tubular in the corolla of several families, and is therefore of no great weight.

It is singular that so great a difference as that between simple and compound leaves should in this tribe be unconnected with other characters, and the very few plants in which compound leaves occur differ widely from each other in the form of their flowers or direction of their segments.

STERCULIÆ.

DESC. TARIUS.—*Floræ* declines, monoici, *Masculi* com rudimento, sæpius minuto et antheris occultato, pistilli: rarò stigmatibus ovulisque ferè ut in feminis. *Femine* antheris manifestis sæpè doentis polline sed semper efforto. *Calyx* monophyllus, 5-fidus, onc 5-partitus, rarò 4- v. 6-fidus, æqualis, coloratus; revivificatioe valvatà rarissimè ioduplicatà; deciduus, quandoque marcescens. *Corolla* nulla. *Gynostemium*, columna genitalia sustinens, calyce brevius v. longius rarò abbreviatum ferè oullum, io cujus apice *Antheræ* subsessiles quidecim, nunc decem, quandoque viginti (rarò quinque) urceolum abbreviatum cyathiformem rarissimè tubulosum terminantes, in capitulum inordinatim congestæ, v. io fasciculos quinque com ovaris alternatos polysdelphe (nunc dum decem v. quinque, sæpius in serie simplici dispositæ); biloculares, loculis distinctis, parallelis (rarò divaricatis). *Pollen* simplex, læve, spheroidicum. *Ovaria* 5, rarò 4 v. 6 (rarissimè 10—12), leviter cohererentia, polysperma (nunc tetra- v. disperma, rarò monosperma). *Ovula* angulo interno ovarii,

dum indefinita duplici rarò quadruplici serie, inserta. *Styli* tunc quot ovaris, coacti v. arcuè approximati, et tunc sæpè arcuè deflexi (nunc ad basin ferè distincti, quandoque nulli). *Stigmata* in unicum subcapitatum quinquelobum coherentia, v. distincta subcylindrica indivisa. *Pericarpia*: *Folliculi* coriacei v. lignei (rarò submembranacei) hæud ante maturitatem seminum dehiscentes (in nonnullis in quibus nula definita (2 v. 4) citò post fecundationem spericetes, foliacei) (rarò clausi, nucamentacei). *Semina* aptera (rarissime aptice alata), umbilico sæpè minimò nudo, quandoque strophilià parvâ, rarissime si unquam ? arillo carnoso incompletò ? aucto. *Integumentum* triplex (in exalbuminoso simplex): dum triplex *extimam* quasi teste lamina exterior, tenue, crustaceum, superficiè interiore sæpius vasculosâ, inter hoc et medium substantia laxè cellulosa vel stuposa v. pulverea sæpè obvia; *medium* quasi teste lamina interna, cartilagineo-nucamentaceum, evasculosum semper; *intimam* membranaceum, quandoque evanidum. *Albumen* amygdalino-carnosum, album, bipartibile! segmenta sæpius cotyledonibus coherentia, in quibusdam cum ipsè conferruminata, et texturâ v. colore paulò diversa tantùm indicata quandoque nullum. *Embryo* dicotyledoneus, albus, longitudine albuminis, antitropus (nunc orthotropus v. transversus). Cotyledones in albuminoso latitudine albuminis et sæpius foliaceæ (in exalbuminoso semper carnosæ). *Radicula* v. hilo contraria et centrifuga (v. approximata et centripeta, v. transversa et infera). *Plumula* parva sed manifestâ.—*Arbores intra tropica sæpius provenientes, et tamen omnes foliis deciduis. Folia alterna, petiolata, simplicia, indivisa v. lobata, rarò digitato-composita, folioli cum petiolo articulatione: omnia sæpè sessilibus atellatis, in quibusdam nullâ, præsertim in paginâ superiore, v. in adultis decidua. Petioli teretiusculi, basi et apice paulò incrassati. Stipulæ laterales, distinctæ, plerumque subulate et caducæ. Inflorescentia sæpius paniculata v. racemosa, pendula, quandoque fasciculis axillaribus v. ramis erectis: bracteolis caducis, pedicellis medio v. juxta apicem articulatis.*

CHAR. ORDINARIUS TRIBUS. *Flores* polygamo-munici. *Calyx* 5-fidus, æstivatiunc valvatâ. *Corolla* nulla. *Genitalia* stipitem terminantia. *Anthere* 15, congestæ v. polyadelphæ, biloculares; loculis parallelis. *Ovaria* 5, plurinulata. *Styli* coherentes. *Stigma* divisum v. lobatum. *Folliculi* ligneo-coriacei, polyspermi. *Embryo* rectus, longitudine albuminis bipartibilis. *Cotyledones* albumini coherentes. *Radicula* hilo contraria.

CHARACTERES UNIVERSALES. *Flores* unisexuales. *Calyx* coloratus, æqualis, æstivatiunc valvata rarò ejusdem modificatione induplicata. *Corolla* 0. *Stamina* hypogyna. *Anthere* biloculares. *Pericarpia* distincta.

STRECCULIA.

Strecculie pars auctorum ferè omnium.

CHAR. GEN. *Calyx* 5-fidus (rarò 4-fidus). *Anthere* v. inordinatim congestæ v. polyscliphæ. *Ovaria* plurinulata. *Styli* coherentes (in unicum sæpius arcuè deflexum). *Stigmata* in unicum 5-lobum coacta quandoque distincta. *Folliculi* lignei v. coriacei. *Semina* albuminosa; albumine bipartibilis cum cotyledonibus plûs minùs arcuè coherentis. *Embryonis radice* hilo contraria.—*Arbores intra tropicos Asia (et insularum adjacentium) Africa et America provenientes. Folia indivisa, v. lobata, v. in paucis digitatum composita. Inflorescentia v. paniculata*

v. *racemosa*, in *plerisque nutans*; floribus terminalibus serpiens præcoccioribus et feminis, et in his stylus arctè deflexus.

* Folia composita, digitata: foliis cum petiolo articulatis et separatim solubilibus.

a. Calycis laciniae patulae.

STREVELIA (futida) foliis 7—5 elliptico-lanceolatis acuminatis petiolatis vix quadruplo longioribus quam latis utrinque glabris.

S. futida, Linn., *DeCand.*

Loc. Nat. India orientalis, Insulaeque Moluccanae.

Obs. Varietatem in orâ septentrionali Novæ Hollandiæ, anno 1802, legi cujus venæ primariæ subflexuosæ et magis deliquescentes.

S. (polyphylla) foliis 9—11 lineari-lanceolatis elongatis sessilibus sexies longioribus quam latis utrinque glabris.

Loc. Nat. E Sumatra, ad fretum Sunda, folium nuncum reportavit D. G. Staunton (v. s.).

Obs. Figura Clompani majoris, *Rossp. Amh.* iii. t. 107, sat benè respondet, arboremque juvenem biorgyalem, foliis omnibus sumatrano similibus, in Hort. Reg. Paris. cultam anno 1843 vidi.

S. (mexicana) foliis 7 euneato-oblongis basi attenuatis petiolatis glaberrimis, floribus (masculis) paniculatis, calycibus intus barbatis.

Loc. Nat. Mexico ad Chiapas D. Linden v. s. in Herbb. Hort. Paris. et D. Delesert.

Obs. Feminei flores et pericarpia desiderantur ideoque genus incertum.

* β. Calycis laciniae conniventes, apicibus diù coherentibus.

S. (versicolor) foliis oblongo-ellipticis acuminatis subtus tomentosis.

S. versicolor, Wall., *Pl. asiat. rar.* i. p. 48, tab. 59.

Loc. Nat. Ind. or. ad ripas Irrawaddi D. Wallich.

Obs. Fructus ignotus.

** Folia simplicia, aliqua v. omnia lobata. Calycis laciniae patentes.

S. (urens) foliis 3—5-lobis subtus tomentosis velutinis, paniculis compositis erectis, calycis lacinis basi linguâ deflexâ, floribus decandris urceolo antherarum cylindrico, stylo erecto.

S. urens, Roxb. *Corom. pl.* i. p. 25, t. 24.

Loc. Nat. Indis orientalis, Roxburgh.

S. (villosa) foliis 5—7-lobis acuminatis subtus tomentosis velutinis, paniculis compositis pendulis, calycis æstivatione induplicata! stylo deflexo.

S. villosa, Roxb. *Fl. ind.* iii. p. 153.

Loc. Nat. Ind. or., Roxburgh.

S. (abyssinica) foliis 3—5-lobis adultis super glabris subtus pubescentibus, racemis (femineis) subsimplicibus nutantibus, calycibus glabriusculis: lacinis intus extra medium villosis, columna genitalium glaberrimo calyce breviori, stylo recurvo, folliculis polyspermis intus setosis.

S. abyssinica, R. B. in Salt, *Trav. app.*, p. lxiv.

Loc. Nat. Abyssinis, D. Salt.

S. (tomentosa) foliis cordatis plerisque trilobis adultis utriusque tomentosus velutinis, floribus racemosis pendulis, calycibus extus tomeosis, stipiti genitalium piloso.

S. tomentosa, Guillem., Perrotet et Richard, *Flor. seneamb.*, i. p. 81, tab. 16.

Loc. Nat. Africa equinoctialis.

Obs. S. abyssinice nimis affinis.

S. (Triphaca) foliis reniformibus acutis indivisis obovatis trilobisve adultis super glaberrimis subtèr glabriusculis, ovaris 2—3, stylo recurvo, stigmatè lobato-capitato.

Triphaca africana, Lour. *Cochin.*, 577. (et *DeCand. Prodr.*) *fid. fragm. ab ipso Loureiro in Herb. Mus. Paris.*

Loc. Nat. Africa orientali-australis contra Mozambique, Loureiro.

S. (carthaginensis) foliis 3—5-lobis obtusis acutiusculisve cordatis adultis super glabris subnitentibus subtèr velutino-tomentosis cinereis venulis immersis, calycibus extus furfuraceo-tomeosis lotis glabris, stylo recurvo.

S. carthaginensis, *Car. Diss.* vi. p. 353.

S. Helicteres, *Pera. Syn.* ii. p. 240. *DeCand. Prodr.* i. p. 483.

S. Chicka, *Aug. Ste. Hil. Pl. usuell. des Brasil.*, tab. 46, et *Fl. Brasil. merid.*, i. p. 278, *fid. exempl. ab ipso Auct. in Herb. Mus. Paris.*

Helicteres apetala, *Jory. Amer.*, p. 238, ubi desc. opt. cum ic. flor. in tab. 181. fig. 97, *fide flor. uocèi femine in Herbario ipsius Jacquin in Museo Britannico asservato.*

Obs. Ab hac vix differt Chicka aserifolia, *Presl, Reliq. Hæock*, ii. p. 141, quamvis ad plantam suam stylum erectum attribuit; et hujus loci forsàn *St. punctata*, *DeCand. Prodr.* i. p. 483, vix obstante foliorum lobis acumiosis figure loeditur.

S. (striata) foliis 3—5-lobis acutiusculis obtusisve cordatis adultis super glabris oon oitentibus subtèr pubescentibus rugosis venulis emersis, calycibus extus pilosis.

S. striata, *Aug. Ste. Hilaire et Naudin. in Annal. des sc. nat.*, ser. 2. tom. xviii. bot. p. 213.

Loc. Nat. Brasilia, v. Martius (in cujus herb. S. chicka) et D. Gardoer.

*** *Folia simplicia, omnia indivisa.*

a. *Calyx 5-partitus, patens; laciniis medio intus linguâ (squamulâ abbreviatâ) auctis. Antheræ decem, sed subcongestæ (nec æquidistantes).*

S. (Ivira) foliis ovato-oblongis acutis basi obtusâ (nec cordatâ) adultis super glabris subtèr petiolisque tomentosus.

Ivira pruricos, *Aubl. Guian.*, p. 695, t. 279. *Character ab ipso exemplari Aubletii in Herb. Books. Mus. Brit.*

S. Ivira, *Sw. Prodr.* p. 98, *Flor. Ind.-occident.* ii. p. 1160.

Obs. Character specific. et descr. Swartzii præsertim e descriptione Aubletii deprompta est, sed partim a sequenti.

S. (rarides) foliis ovato-oblongis acutis basi obtusâ adultis super petiolisque glaberrimis subtèr glabriusculis.

Loc. Nat. In Insulis Caribæis legit De Ponthieu.

S. (propinqua) foliis oblongo-ovatis acutis basi cordatâ subtèr tomentosis.

Loc. Nat. A Surinam misit *D. Hostmann*.

Obs. A *S. Ivisa* foliis basi cordatâ præsertim et vix aliter differt.

S. (frondosa) foliis ad apicem ramuli confertis oblongis obtusissimis basi obtusiusculâ levibus adultis supèr glaberrimis nitidis subtèr glabris venulis altè immersis, racemis axillaribus pedunculatis divisis.

Sterculia frondosa, *Richard in Act. soc. hist. nat. paris.*, p. 111.

Loc. Nat. Guiana Gallica, *D. Richard*.

S. (Surinamensis) foliis ad apicem rami confertis oblongis obtusissimis basi obtusiusculâ adultis utrinque pubescentibus venulis subtèr parùm emersis, racemis axillaribus pedunculatis divisis.

Loc. Nat. A Surinam misit *D. Hostmann*, v. s. in *Herb. D. Hooker*.

S. (rugosa) foliis oblongis obtusissimis venis venulisque subtèr promiuentibus rugosis.

Loc. Nat. In Demerari detexit *A. Anderson*, Horti Botanici Ins. Sti Vincentii tunc prefectus.

*** *β. Calyx patens, laciniis obseque linguld.*

S. (guttata) foliis oblongo-ovatis acutis acuminatisve basi obtusâ subcordatâ adultis subtèr tomentosis, racemis axillaribus indivisis, floribus subternis subsessilibus, calycibus extûs furfaraceo-tomentosis intûs villosis.

Sterculia guttata, *Rorb. Fl. ind. iii. p. 148.*

α. folia oblongo-ovata acuta.

β. folia obovata acuminata, racemis folio multoties brevioribus.

Loc. Nat. Ind. Or., *D. Roxburgh*.

S. (Madagascariensis) foliis oblongis altè cordatis obtusis adultis utriusque glaberrimis, racemis compositis, pedunculis calycibusque extûs pube stellari cineris.

Loc. Nat. Madagascar, *D. Richard de Bourbon in Herb. Mus. Paris.*

S. (Roxburghii) foliis ovalibus oblongisve acuminatis basi obtusâ utrinque glabris, racemis axillaribus foliis brevioribus, calycibus profuodè 5-fidis: laciniis lanceatis imberbibus.

Sterculia Roxburghii, *Wall. List*, n. 1124.

Sterculia lancea-folia, *Rorb. Fl. ind. iii. p. 150.*

Loc. Nat. Ind. Or., *Sillet, Dr. Wallich*.

S. (lasceolata) foliis elliptico-lanceolatis acutis basi acutiusculâ adultis utriusque glabris, paniculis axillaribus foliis brevioribus, calycibus quinquepartitis patulis imberbibus glabriusculis.

Sterculia lanceolata, *Cav. Diss. v. p. 287, t. 143. f. 1. Lindl. in Bot. regist., 1256.*

Loc. Nat. China.

S. (parvifolia) foliis lanceolatis utriusque glaberrimis acutis subacuminatisve basi acutâ, racemis axillaribus simplicibus foliis brevioribus.

Sterculia parvifolia, Wall. *List*, n. 1123.

Loc. Nat. Ins. Penang, Dr. Wallich.

S. (*Jassica*) foliis obovatis acumine brevissimo basi obtusâ subcordatâ subtèr tomentosis, paniculis cernuis, calycibus patulis utrinque tomentosis.

Sterculia cordata, Blume *Bijdr.*, p. 86?

Loc. Nat. Java, Dr. Horsfeld.

S. (*macrophylla*) foliis altè cordatis obtusis indivisis subtèr tomentosis, paniculis lateralibus cernuis, calycibus 5-fidis patentibus.

Sterculia macrophylla, Vent. *Malm.* II. n. 91 in *adnot.* DeCand. *Prodr.* I. p. 483.

Loc. Nat. Java, Dr. Horsfeld.

S. (*comosa*) foliis ovatis cordatis acuminatis subtèr tomentosis, paniculis decompositis, calycibus patentibus.

Sterculia comosa, Wall. *Pl. asiat. rar.* II. p. 25, t. 127.

Loc. Nat. Amboina, in *Hort. Colè cult.*, Wallich.

S. (*longifolia*) foliis oblongis acutiusculis glabris, racemis subsimplicibus, pedicellis subgeminis folio brevioribus, calycis laciniis patentibus intus barbatis tubum extus glabriusculum subæquantibus.

Sterculia longifolia, Vent. *Malm.* II. n. 91 in *adnot. fid. specim.* in *Herb. Vent.*

Obs. Cfr. *Sterculiam lanceolatam*, Blume, *Bijdr.* quoad folia et inflorescentiam similem sed calycis laciniis conniventibus et apice connexis diversam.

Loc. Nat. Java, Dr. Horsfeld.

S. (*levis*) foliis oblongo-lanceolatis acumine lineari obtuso basi acutiusculis utrinque glabris, racemis subsimplicibus folio brevioribus, calyce extus glabro: laciniis patentibus tubo duplò longioribus e latâ basi linearibus intus barbatis.

Sterculia levis, Wall. *List*, n. 1138.

Sterculia coccinea, Jack in *Mal. miscel.* I. non Roxburgh.

Loc. Nat. Palo Pinang.

S. (*Spangleri*) foliis lanceolato-oblongis acutis subacuminatisve utrinque glabris, racemis subcompositis, calycibus extus glabris: laciniis patentibus e latiore basi subulatis intus barbatis tubo duplò longioribus.

Obs. Proxima *Sterculiæ levis* et *longifoliæ*; ab illâ foliorum latiorum et basi obtusiorum acumine breviori et ab apice folii sensim angustato nec subitò constricto et lineari; ab hac præsertim calycis laciniis tubo duplò longioribus diversa.

Loc. Nat. Java, D. Spangler in *Herb. D. Hooker.*

S. (*coccinea*) foliis lanceolatis subacuminatis basi obtusiusculis adultis utrinque glabris, paniculis axillaribus cernuis, calyce extus glabro: laciniis e latâ basi filiformibus barbatis tubo abbreviato 4—5-plò longioribus.

β. folia cuneato-lanceolata, racemi subsimplices folio breviores.

Sterculia coccinea, Rozb. *Fl. ind.* iii. p. 151. *Wall. List*, n. 1122.

Loc. Nat. s. Sillet, Rozb., *Wall.* β. Assam, D. Griffith.

Obs. Ad hanc sectionem forsitan referendæ *Helicteres undulata* et paniculata, *Less. Coch.*, p. 531 : et ad eandem primo intuitu pertinere videtur *Sterculia panduana*, *Wall. List*, n. 2701, quæ autem Reevaia species est, R. Wallichii, nob.

*** γ. *Calycis laciniis concinentes apicibus diù coherentibus.*

S. (*nobilis*) foliis ovali-oblongis brevè acuminatis basi obtusâ utrinque glabris, paniculis pendulis calycibusque extus pube rarâ conspersis, stigmatibus subrotundis stylo deflexo multoties brevioribus.

Sterculia monosperma, *Vent. Malm.* ii. n. 91.

Sterculia Balanghas, Rozb. *Fl. ind.* iii. p. 144, non *Linnei*.

Soutwellia nobilis, *Sahab. Parad. lond.*, t. 69. exclus. syn. *Linnei*, Cavanilles et Hort. Malab.

Loc. Nat. China; in Hort. Bot. Calc. et Europæis culta.

S. (*Balanghas*) foliis oblongo-ovalibus obtusiusculis v. acuminè brevissimo obtuso basi obtusâ (nec cordatâ) adultis super glabris subtèr pubescentibus, paniculis calycibusque extus tomentosis: laciniis intus densè barbatis, folliculis polyspermis extus tomentosis intus glabris.

Sterculia, *Linæ. Flor. zeyl.*, n. 350, *fdæ speciminum Herb. Hermanni*, vol. ii. fol. 42.

Sterculia Balanghas, *Linæ. Sp. pl.* ed. 1. p. 1007.

Cavaleam, *Hort. malab.* i. p. 69, t. 49.

Loc. Nat. Zeylona et Peninsula Indis Orientalis.

Obs. Hujus varietas ut videtur foliis acutiusculisve nec unquam constrictè acuminatis, petiolis adultis pubescentibus, ex *Herb. D. Wight*, et probabiliter illius *S. Balanghas*, *Illustr.*, tab. 30.

S. (*angustifolia*) foliis oblongo-lanceolatis attenuato-acuminatis basi obtusâ adultis super glabriusculis subtèr copiosè pubescentibus, paniculis nutantibus folia superantibus, calycibus extus tomentosis: laciniis intus modicè barbatis tubo longioribus, stigmatibus distinctis recurvis stylam æquantibus.

Sterculia angustifolia, Rozb. *Fl. ind.* iii. p. 148. *Wall. List*, n. 1133.

Loc. Nat. Nepalia.

S. (*mollis*) foliis elliptico-oblongis acutis acuminatisve basi obtusâ adultis super pube rarâ scabriusculis subtèr velutinè tomentosis, paniculis laxis nutantibus ramulis pedicellisque capillaribus pilis patulis, calycibus extus tomentosis: laciniis intus barbatis longitudine tubi hemisphærici, stigmatibus distinctis stylam æquantibus folliculis polyspermis extus velutinis intus pilosiusculis.

Sterculia mollis, *Wall. List*, n. 1131, *fd. sp. Herb. Wallichiani in Museo Soc. Linn. Lond.*

Loc. Nat. Martabanica, Dr. Wallich.

S. (*ruginosa*) foliis cuneato-oblongis acutis v. constrictè acuminatis basi obtusâ adultis super glabris subtèr pubescentibus venoso-rugosis, stipulis longitudine petiolorum, paniculis folia vix

æquantibus, calyceibus extis tomentosis: laciniis intus densè barbatis tubum turbinatum superantibus.

Sterculia rubiginosa, *Vent. Malm.* ii. fol. 91 in *adnat. fide specim.* in *Herb. D. de Jussieu et D. Smith a Thesin.*

Sterculia angustifolia, *Jack in Mal. miscell.*, vol. i.

Stercolia Jackiana, *Wall. List.* o. 1134, *sec. specimina in Herb. Wallich. Musci Soc. Linn.* e quibus character specif. desumptus.

Loc. Nat. Java, Ventenat. Palo Pinang et Singapore, Jack et Wollich.

S. (cuneata) foliis cuneato-obovatis ellipticisve scutiusculis basi obtusâ adultis super glabris subtèr pubescentibus, petiôis stipulas subulatas vix æquantibus, racemis terminalibus subimplicibus, calycis laciniis intus strigoso-barbatis tubo cynthiformi longioribus.

Loc. Nat. Insule Philippinæ, D. H. Cuming.

S. (ferruginea) foliis oblongo-lanceolatis attenuato-acuminatis basi obtusiusculâ adultis super glabris subtèr pubescentibus venoso-rugosis, ramulis petiolis calycibusque extis ferrugineo-tomentosis, racemis subcompositis, calycis laciniis tubo duplò longioribus, stigmatibus recurvis stylo arcuè deflexo dimidio brevioribus.

Loc. Nat. Ins. Philippinæ, D. H. Cuming.

S. (stipularis) foliis cuneato-oblongis acuminatis membranaceis basi cordatâ adultis super glabrusculis subtèr petiolisque uodique tomentosis, stipulis petiolos æquantibus, racemis compositis elongatis pendulis farfuraceo-pubescentibus, calycis laciniis intus strigoso-barbatis tubo turbinato paulò longioribus.

Loc. Nat. Insule Philippinæ, D. H. Cuming.

S. (oblongata) foliis oblongis acutiusculis basi obtusissimâ adultis super glaberrimis subtèr glabrusculis, paniculâ foliis (spithameis—pedalibus) breviorè, calycis laciniis tubum urceolatum glabrusculum vix æquantibus subulatis pubescentibus demùm solutis.

Loc. Nat. Insule Philippinæ, D. H. Cuming.

S. (grandifolia) foliis cuneato-oblongis basi (apiceque?) obtusis adultis glabris, racemis simplicibus petiolo elongato brevioribus, calycis laciniis linearibus utriusque tomentosis: tubo brevissimo.

Loc. Nat. Java, Spangler in Herb. D. Hooker.

S. (cuspidata) foliis oblongo-ovatis acumine linearì basi obtusis utriusque glaberrimis, racemis simplicibus, calyceibus extis glabris: laciniis subulatis intus pilosiusculis tubum turbinatum æquantibus.

Loc. Nat. Sumatra, D. Reffles.

S. (insularis) foliis ovali-oblongis acutis basi obtusâ utrinque glabris, floribus paniculatis, calycis tubo turbinato glabro laciniis intus barbatis demùm distinctas et patescentes æquante.

Loc. Nat. Insula Moluccæa Honimon, Ch. Smith.

S. (parviflora) foliis oblongo-ovatis acumine basi transversâ subcordatâ adultis subtèr tenuissimè

pubescentibus, floribus 5-fidis paniculatis tomento adpresso, calycis tubo orceolato lacinias adpressè tomentosis longiore.

Sterculia parviflora, *Roxb. Fl. ind. iii. p. 147. Wall. List, n. 1121.*

Loc. Nat. Sillet, Roxburgh et Wallich.

S. (*quadrifida*) foliis ovatis cordatis acutis obtusiusculisve adultis utrinque glabris, floribus subpaniculatis plerisque 4-fidis, calycibus extèr laciniisque tubum urceolatum sequantibus intèr tomentosis.

α. folia obtusiuscula, tomentum paniculae et calycis baud adpressum.

β. folia acuta, tomentum paniculae et calycis extèr subadpressum.

Loc. Nat. Nova Hollandia; α. io orà orientali, β. io orà septentrionali, ano. 1803.

S. (*urceolata*) foliis ovatis ellipticisve acutis basi obtusè adultis glabrisculis, floribus paniculatis, calyce tomentoso: lacinias tubum ovatum subaequantibus intèr barbatis pilis strictis.

Sterculia urceolata, *Smith in Reece's Cyclop.: fid. exempl. in Herb. Smith. in Mus. Soc. Linnean. an bujus loci S. Candollei, Wall. Pl. asiat. rar. i. p. 4, quæ Sterculis populifolia α., De Caod. Prodr. i. p. 483?*

Loc. Nat. Honimoa, Ins. Moluc., Ch. Smith.

S. (*ceramica*) foliis ovatis subcordatis acutiusculis adultis utriusque paniculaeque glabris, calycibus glaberrimis alabastro obtuso.

Loc. Nat. Insula Moluccana Ceram, Ch. Smith.

Obs. Ao laciniae calycis apicè connexæ?

S. (*Tragacanthæ*) foliis ovatis acutis basi obtusè adultis supèr pube rarè conspersis subtèr tomentos, calycis lacinias tubum turbinatum sequantibus.

Sterculia Tragacanthæ, Lindl. in Bot. regist., 1353.

Loc. Nat. Africa Æquinoctialis prope Sierra Leone.

S. (*obovata*) foliis obovatis acumine brevissimo basi obtusè adultis supèr glabrisculis subtèr pubescentibus, folliculis tomentosis.

Loc. Nat. Africa Æquinoctialis ad flumè Congo, Christian Smith.

TETRAIDIA.

CHAR. GEN. Calyx 4-part. (ovum 3-part.). Antheræ 8, simplici seric, localis omnibus parallelis.

Ovaria 4, ovulis numerosis. Stigmata recurva.

Arbor (Javaica) foliis indivisis, racemis axillaribus brevibus monoicis, floribus hermaphroditofemineis columna nulla, aliquoties majoribus masculo cui columna manifesta gracilis et rudimentata minuta pistilli.

Obs. Pericarpia et Semina ignota statio generis? iocerta: propè Brachychitoo posui ob ovula basi parum obliquè foramen bilo proximum iodicante.

Tetradium, *Lour. cochin., p. 91. fide exemplaris ab auctore ad D. Baoks missi Fagare species est.*

TETRAIDIA *Horsfieldii.*

Loc. Nat. Java, Dr. Horsfield.

BRACHYCHITON.

Sterculiæ subgenera sequentiq. Brachyehiton, Poecilodermis et Trichosiphon, *Endl. Gen.*, p. 994.

CHAR. GEN. Calyx 5-fidus. Antheræ congestæ. Styli coherentes. Stigmata distincta, v. in unicum peltatum coalita. Folliculi coriaceo-lignosi, polyspermi. Semina albuminosa, pube stellari tecta mutuo et fundo folliculi coherentia. Embryonis radícula hilo proxima!—Arbores (Novæ Hollandiæ) foliis lobatis indivisive.

* *Calycis aestivatio induplicata (tabus squamis numerosis inferis)*. Sterculiæ subgenus BRACHYCHITON, *Endl.*

BRACHYCHITON (*romiformum*) foliis cordatis circumscriptione subrotundis trilobis obtusis utriusque folliculique extis tomentosis.

Loc. Nat. In orâ septentrionali Novæ Hollandiæ ann. 1802—3 legi.

** *Calycis aestivatio valvata.*

Br. (*incanum*) foliis altè 5-lobis tomentosis subtèr iocanis: lobis acuminatis, folliculis extis tomentosis.

Obs. Aestivatio ignota, an induplicata?

Loc. Nat. In orâ septentrionali Novæ Hollandiæ ann. 1819 legit b. A. Carvingbam.

Br. (*platanioides*) foliis altè 5-lobis scutis glabris, racemis subsimplicibus, calyce infundibuliformi, stigmatè peltato, folliculis extis glabris.

Triebosiphon, *Endl. Gen.*, p. 994.

Loc. Nat. In orâ orientali, iotra tropicum, Novæ Hollandiæ ano. 1802 legi.

Br. (*populneum*) foliis ovatis acuminatis indivisis trilobisve basi acutâ v. obtusâ glaberrimis, racemis axillaribus subsimplicibus, calycibus campanulatis, folliculis elongato-stipitatis.

Poecilodermis, *Endl. Gen.*, p. 994.

Loc. Nat. In orâ orientali, extra tropicum, Novæ Hollandiæ ann. 1803—4 legi.

Br. (*diversifolium*) foliis ovatis elongato-acuminatis basi obtusâ v. cordatâ glaberrimis (quosdamque oblongis linearibusve), folliculis extis glabriusculis abbreviato-stipitatis.

Loc. Nat. In orâ septentrionali Novæ Hollandiæ ano. 1803 legi.

PTRYGOTA, *Endl. Gen.*, p. 995.

CHAR. GEN. Calyx 5-partitus. Antheræ congestæ v. polyadelphæ. Stigmata distincta. Folliculi ligni, polyspermi. Semina apice alata! albuminosa. Radícula embryonis hilo proxima.—Arbor (Indiæ Orientalis) foliis indivisis.

PTRYGOTA *alata*.

Sterculia alata, *Rarb. Coromand.* iii. p. 84, t. 287.

Loc. Nat. Ind. Or., Silhet et Chittagong, *D. Roxburgh.*

HILDEGARDIA, p. 994.

Sterculiæ subgenus HILDEGARDIA, Endl. Gen.

CHAR. GEN. Calyx 5-partitus. Antheræ congestæ. Folliculi membranacei, veososi, apice alati, tardius debiscentes. Semina albuminosa. Radicula embryonis hilo proxima.—Arbor (Indiæ Orientalis) foliis cordatis indivisis.

HILDEGARDIA populifolia.

Sterculia populifolia, Roxb. Fl. ind. iii. p. 148. Wall. Pl. asiat. rer. i. p. 3, t. 3.

Loc. Nat. Ind. Or., Roxburgh et Wallich.

FIRMIANA, Merrill in Act. Patav. i. p. 116, t. 1 et 2.

Sterculiæ subgenera FIRMIANA et ERYTHROPSIS, Endl. Gen., p. 994.

CHAR. GEN. Calyx v. 5-partitus tubo brevissimo, v. tubulosus semiquinquefidus. Antheræ (15) congestæ v. polyadelphæ. Styli coaliti, stigmatibus lobato. Pericarpia longè ante maturitatem aperientia, membranacea, foliiformia. Semina 2—4, albuminosa. Embryo transversus; Radicula infera.—Arbores Asiatici (Chinensis et Indiæ Orientalis) foliis lobatis.

* Calyx 5-partitus; tubo brevissimo fasciculis quinque pilorum intus barbato. Sterculiæ subgenus FIRMIANA, Endl. Gen.

FIRMIANA platanifolia.

Sterculia platanifolia, Linn. fl. Suppl. Plant. p. 422.

Sterculia pyriformis, Bunge in Act. Petrop. ser. estrang. ii. p. 83. fid. exemplo e Mus. Acad. Petrop. in Herb. D. Hooker.

Sterculia tomentosa, Thunb. Ic. pl. Japon. dec. 4.

Loc. Nat. China et Japonia.

** Calyx tubulosus quinqueidentatus v. semiquinquefidus; tubo intus fasciculis 5 pilorum. ERYTHROPSIS, Lindl. Sterculiæ subgenus ERYTHROPSIS, Endl. Gen.

F. colorata.

Sterculia colorata, Roxb. Coromand. i. p. 26, t. 25.

α. calyx extus furfuraceo-pubescentia, pube stellari radiis abbreviatis rigidis; tubo dentibus ferè quater longiore foliis adultis subtis glabriusculis.

β. calyx extus furfuraceo-pubescentia pube stellari radiis abbreviatis rigidis; tubo dentibus quater et ultra longiore, foliis adultis subtis pube copiosa scabris.

St. fulgens, Wall. List, n. 1135.

Forsan distincta species.

γ. calyx extus pube stellari radiis laxis patentibus velutino; tubo dentibus vix ter longiore.

An species distincta?

Loc. Nat. Ind. Or. et Ins. adj., Roxburgh et Wallich.

SCAPHIUM.

Sterculiæ subgenus SCAPHIUM, Endl. Gen.

CHAR. GEN. Flores monoici. Calyx 5-fidus. Antheræ (15) congestæ. Ovaria disperma. Styli coacti. Stigma 5-lobum. Pericarpium longè ante maturitatem spericoticum, foliaceum, navicularia. Semen unicum, albuminosum? Embryonis radícula hilo proxima.—Arbor (Indiæ Orientalis) foliis induratis.

SCAPHIUM *Wallichii*.

Sterculia scaphigera, Wall. List, o. 1130.

Loc. Nat. Martabaniam, Wallich.

PRROCYNRIUM (n. suprâ).

COURTENIA.

CHAR. GEN. Calyx 5- (raro 4-) fidus, patens. Antheræ (10) simplici serie æquidistantes; loculis omnibus parallelis. Ovaria 10! (nunc 11—12, raro 5!). Stigmata 10 recurva (stilo brevissimo). Folliculi crassi, polyspermi. Semina exalbuminosa. Radicula hilo proxima.—Arbores (Africa Æquinoctialis); foliis altè lobatis; floribus sæpius congestis.

COURTENIA *Afzelii*, caudice simplicissimo, foliis palmato 5—3-lobis cordatis: lobi medii dimidio inferiore angustiore, floribus caulinis congestis.

Loc. Nat. Africa Æquinoctialis prope Sierra Leone et Coogo. In Hort. Reg. Kew. florentem vidi ann. 1808 et 1843.

C. *triloba*, foliis circumscriptione cuneatis basi obtusa palmato-trilobis: lobi medii dimidio inferiore haud angustiore, floribus axillaribus congestis.

Loc. Nat. Africa Æquinoct., Senegambia, Huedot in Mus. Paris. et Herb. D. Delessert.

C. ? *heterophylla*, foliis palmato-trilobis indivisiave basi cuneata, racemis laxis, ovaris quinque.

Sterculia heterophylla, Patis. Fl. d'oware, p. 67, t. 40.

Loc. Nat. Africa Æquinoct., Oware.

Obs. Fructus ignotus ideoque et ob ovaria tantum quinque dubii generis planta, sed habitus ferè Courtenia trilobæ quæcum etiam convenit antherarum dispositione et numero, defectu columnæ et stigmatum forma.

COLA.

Sterculiæ subgenus COLA, Endl. Gen.

CHAR. GEN. Calyx 5-fidus, patens. Antheræ (10) simplici serie; loculis divaricatisimis! Ovaria multiovulata. Stigmata sessilia, distincta, filiformia. Folliculi dehiscentes, polyspermi (quandoque monoospermi). Semina exalbuminosa. Radicula embryonis hilo proxima.—Arbores foliis indivisiis glabris.

Obs. Ad hoc genus vix pertinet planta e Sierra Leone, ab Afzelio lecto, habitu quidem simili, stipiti genitalium nullo, stigmatibus distinctis, sessilibus, floribus axillaribus, foliis cuneato-ellipticis basi attenuata utrinque glaberrimis glabris, sed diversa antherarum loculia parallelis.

COLA acuminata, foliis elliptico-oblongis acuminatis basi acutiuscula angulari utrinque glabris, calycibus altè 5-fidis, genitalibus sessilibus.

Sterculia acuminata, *Palis. Flor. d'ovare*, l. p. 41, t. 24.

— *grandiflora*, *Vent. Malm.* ii. p. 91 in *adnot.*, ramulus cum racem. hermaphrodito-femineo.

— *nitida*, *Vent. Malm.*, l. c., ramulus floribus masculis.

— *macrocarpa*, *Don, Diet.* l. p. 515.

— *verticillata*, *Schumacher, Plouf. guin.*, p. 240.

— *oblongifolia*, *DeCand. Prodr.* i. p. 482?

Lanania Bichy, *DeCand. Prodr.* ii. p. 92.

Loc. Nat. In Africa Æquinoctiali ad Sierra Leone, Congo; a nigritis nim in Antillis introducta; culta etiam in Brasiliâ, Mexicô, et Insulâ Mauritiâ.

C. cordifolia, foliis orbiculato-ovatis cordatis indivisiis passimque semitrilobis adultis subtèr pubescentibus, calycibus urceolatis semi-5-fidis, genitalibus brevissimè stipitatis.

Sterculia cordifolia, *Cav. diss.* v. p. 236, t. 143. f. 2. (exclus. fruct. ad St. tomentosum sec. auctores flor. senegamb. pertinenti), *Guillm. Perrottet et Richard, Flor. senegamb.*, p. 79. t. 15.

Loc. Nat. Africa Æquinoct., Senegambia.

Obs. Ad Colam retuli præsertim ob antherarum loculos divaricatissimos, semine exalbuminosa et radicula embryonis hinc proximam, attamen differt a *C. acuminata* floribus (multoties minoribus) subbarcolatis 5-dentatis et, secundum D. Perrottet, seminibus arillatis, necnon habitâ.

HERITIERA, *Dryand. in Hort. Kew.* ed. 1. iii. p. 546.

CHAR. GEN. Calyx 5-fidus. Antheræ 5. Ovaria uninervata! Pericarpia folliculiformia, lignea, clausa, dorso alata. Semen exalbuminosum. Radicula bilo proxima.—Arbores (Asiatica) littoreæ; foliis indivisiis subtis lepidatis squamulis incisus; floribus axillaribus subspaniculatis.

HERITIERA littoralis, foliis elliptico-oblongis ovatis obtusiusculis.

Heritiera littoralis, *Dryand. in Ait. Kew.* ed. 1. vnl. iii. p. 546.

H. fomes, *Buchanan in Syn. Asa. Willd. sp. iv.* p. 972. *DeCand. prodr.* i. p. 484.

H. minor, *Lam. diet.* iii. p. 229. *DeCand. prodr.* i. p. 484.

Loc. Nat. Littora Ind. Or. Insul. Mlucc. Philipp. Javæ et Nav. Hall.

H. attenuata, foliis lanceolatis acuminatis.

Heritiera attenuata, *Wall. List.* n. 1140.

Loc. Nat. Ora Martabanis et Tenasserim, *Wallich.*

GENUS DURIUM TRISUS.

MICRANDRA.

CHAR. GEN. Masc.—Calyx turbinatus 5-fidus patens æqualis æstivatione valvata. Cor. O. Ac.

thera 5 (6?) biloculares loc. parallelis duplici verticillo adnate: media columnæ filiformis ultra productæ indivisa. *Fem.* ignota.

Arbor? sivebus paniculatis foliis ternatis foliolis petiolis petiolis partialibus cum communi haud articulatis, nec apice teretibus v. incrassatis, ideoque vix ad Sterculiaceas pertinens.

MICRANDRA ternata.

Loc. Nat. Brasilia? furesan Para? v. s. in Mus. Paris. ex Herb. Ulyssip.

Obs. Foliola elliptico-oblonga acuta, adulta super glaberrima nitida subtus pube tenui simplici conspersa venis primariis parum eminentibus costata.

Novæ species H. Burronis nomenclata a St. Ambrosiana diversa. RB.

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Pterocymbium J. Walp.

PTEROCYMBIUM

1661



1661 JAVANICUM.

1661 JAVANICUM.



